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Cladocera from bottom deposits as an indicator of changes in climate and ecological conditions

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Abstract

© Published under licence by IOP Publishing Ltd. Diatoms, pollen, and remains of higher vegetation are used as indicator groups in paleoecological studies. Using certain groups of zoological indicators such as planktonic and benthic organisms (Ostracoda, Cladocera, Chironomidae) has recently become popular in paleolimnology and paleoecology. This study aims to estimate the possibilities, benefits, problems and prospects of Cladocera use in the composition of zoothanatocoenosis of lakes' sediments as one of the biological indicators in paleoenvironmental studies and paleoreconstructions of abiotic conditions of the past.

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References

[1] Smirnov N N, Korovchinsky N M, Kotov A A and Sinev A Y 2007 Proc. Rus. Conf. on Cladocera: systematics and biology (Nizhny Novgorod: Papanin Institute for Biology of Inland Waters Russian Academy of Sciences, Vector publisher) 5-73

[2] Korhola A and Rautio M 2001 Zoological indicators 4 (Dordrecht: Kluwer Academic Publishers) 125-165

[3] Frey D G 1988 J. Paleolimol. 1 191

[4] Kosareva L R et al 2017 ARPN Journal of Engineering and Applied Sciences 12 1-15

[5] Ulrich M, Wetterich S, Rudaya N, Frolova L, Schmidt J, Siegert C, Fedorov A N and Zielhofer C 2017 The Holocene OnlineFirst

[6] Frolova L A 2016 Proc. Int. Mult. Scient. GeoConf. SGEM 2016, Energy and Clean Technologies 4 601-607

[7] Frolova L A, Ibragimova A G and Fedorova I V Proc. 16th Int. Mult. Scient. Geo-Conf. SGEM 2016, Energy and Clean Technologies 4 579-587

[8] Frey D G 1986 Handbook of holocene palaeoecology and palaeohydrology (Great Britain: Whiley & Sons) 667-701

[9] Rautio M 2001 Arctic, Antarctic and Alpine Research 33 298

[10] Hofmann W 1987 Hydrobiologia 145 321

[11] Frey D G 1958 Arch. Hydrobiol. 54 275

[12] Hann B J 1989 Geosci. Canada 16 26

[13] Manuylova E F 1964 Cladocera of the USSR fauna (Moscow: Science) 328

[14] Smirnov N N 1971 Chydoridae of the world fauna. The fauna of the USSR. Crustaceans 1 (Leningrad: Science) 531

[15] Whiteside M C 1970 Ecological Monographs 40 118

[16] Szeroczyñska K 2002 Quaternary International 95/96 165-174

[17] Nilssen J P and Sandoy S 1990 Palaeolimnology and lake acidification (London: The Royal Society) 73-83

[18] Frolova L A 2009 Modern problems of evolution (Ulyanovsk: Ulyanovsk state pedagogical University) 416-426

[19] Sarmaja-Korjonen K, Nyman M, Kultti S and Valiranta M 2006 J. Paleolimnol. 35 81

[20] Sweetman J N, Rühland K M and Smol J P 2010 J. Limnol. 69 12

[21] Frolova L A 2011 Methodological approaches to the use of biological indicators in paleoecology (Kazan: Kazan federal university) 52-87
[22] Korhola A, Tikkanen M and Weckström J 2005 J. Paleolimnol. 34 190
[23] Wetterich S, Schirrmeister L, Meyer H, Viehberg F A and Mackensen A 2008 J. Paleolimnol. 39 449